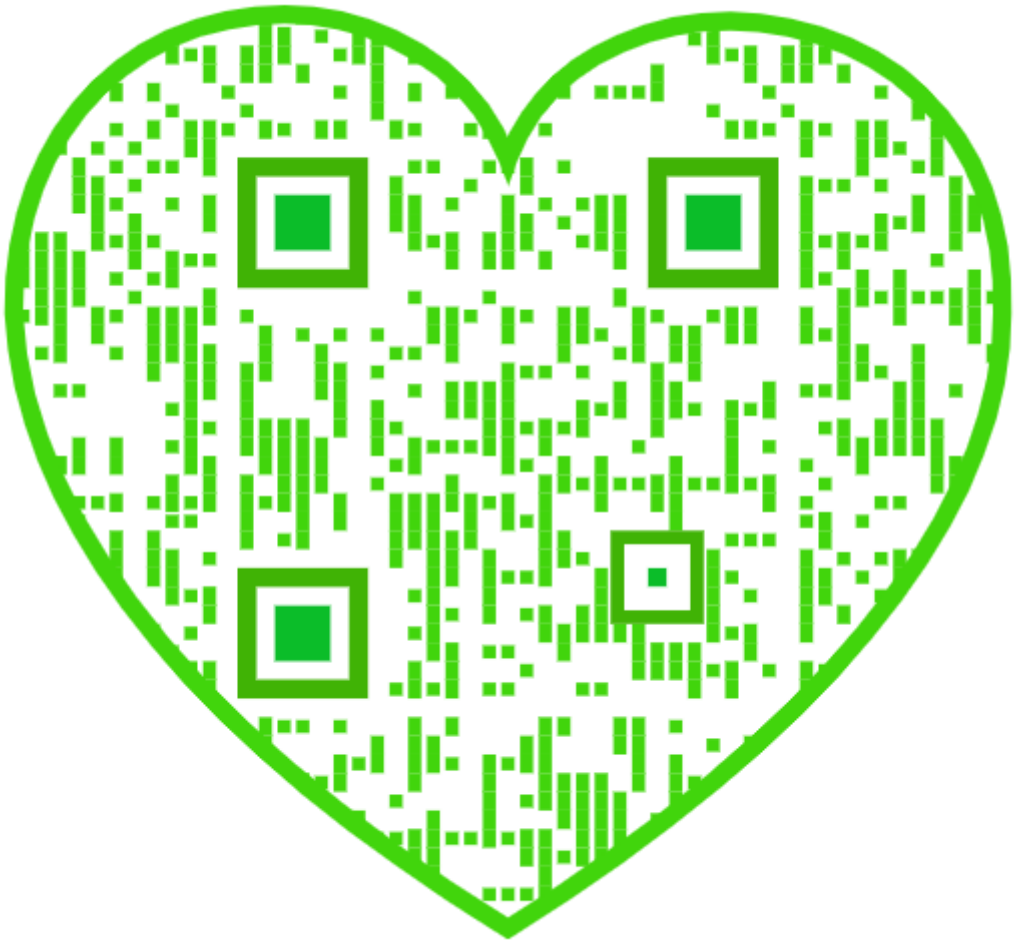
TS
2030
.C6



C. 46 1300 A1

THE

Carriage Maker's & Painter's

"GUIDE."

A FULL AND PLAIN TREATISE ON THE

THEORY AND PRACTICE OF

CARRIAGE PAINTING.

COMPRISING THE

LATEST IMPROVEMENTS IN GILDING, BRONZING, ORNAMENTING, STRIPING, VARNISHING, COMPOSITION OF COLORS, &C., ESPECIALLY ADAPTED TO CARRIAGE AND WAGON MAKERS AND GENERAL PAINTERS,

WITH AN APPENDIX,

GIVING NAMES AND LOCATIONS OF THE PRINCIPAL DEALERS IN PAINTS, VARNISHES, JAPANS, BRUSHES, ARTIST'S MATERIALS, &C., IN NEW YORK AND BOSTON.

By G. W. CLARK, Clarence Centre, N. Y.

BUFFALO, N. Y.:
HAAS & KELLEY, PRINTERS AND PUBLISHERS.

1870.

TS2037
.C6

Entered according to Act of Congress, in the Year 1870,
By G. W. CLARK,

In the office of the Librarian of Congress, at Washington.

9-2339

PREFACE.

The object of the Carriage Painter's Guide, is to give to the uninitiated in this art, a plain and comprehensive method, together with materials used, and mode of application. Knowing well the disadvantages that thousands are laboring under, not knowing even the first rudiments of this difficult art—the author has aimed to embody, in as limited a space as possible, all that is required to produce a job of the first order in point of fulness, durability, brilliancy, and superior tone of finish.

This work is miniature in size and appearance; but within its pages will be found correct rules and principles, pertaining to carriage painting, which, if strictly followed, will prove satisfactory, and this work will have filled its mission. You have at a glance all the secrets and principles that we have labored a lifetime to attain, which should be a source of wealth to any person that has occasion to reduce them to practice.

THE

CARRIAGE PAINTER'S GUIDE.

Arrangement of Shop.

The first important consideration in carriage painting, is a suitable place to do your work; a room where dust can be excluded, and free ventilation had when required. The arrangement for light should be such, that you can get its rays equally from each side, or sky-lights, when practicable. In regard to tools, they should be the best that can be procured; without these requirements you will meet with many vexations and disappointments. The paint-mill is the first in order in the schedule of tools,—the best in use is manufactured by O. C. Harris, Waterville; and J. A. Boutwell, Sangerfield, N. Y. A marble slab, muller and palette knife or spatula, are three indispensible articles, and will be called often into requisition. The best ground medium sized oval varnish brushes, for heavy coating, and camel's hair for light colors on finishing. The latter should be from one and a half to two inches in breadth, with hair from three-fourths to one inch

in length; when new, care should be taken to remove and work out all loose hair and tightening the nails in the socket, and using them on some coarse work until this difficulty is obviated. These as well as bristle brushes, should be kept in water when not in use, by piercing holes through the handles and suspending them on wires, in order to keep the tips from resting on the bottom of the vessel containing the water.

Fitch hair is invariably used for body varnishing. These brushes vary in length from one to four inches; the two-inch tool is the best adapted for ordinary carriage work. These are to be kept in raw oil when not in use, in a covered vessel suspended the same as the color brushes. They should be washed out clean in turpentine before using. Great care should be taken in the cleanliness of your cups designed for varnish. Pour out only the quantity desired for immediate use, as it will not do to let your varnish stand for any length of time in cups. They had better be washed out immediately with turpentine, wiped dry and set away out of the dust. In all first-class shops is kept a vessel that receives all the washings from the varnish tools, this can be used in mixing rough stuff or coarse colors.

The next in order of tools is a thin elastic broad and square pointed putty knife, dust and water brush, sponge, chamois skin and water bucket.

Grounds and Colors.

All paints and colors should be procured in a dry state, and ground in quantities required for immediate use when wanted. The principal paints used in carriage painting, preparatory to receiving its color, as ground for black, are: best white lead, with sufficient quantity of lamp black to give it a greyish tinge, usually termed lead color.

Paints Employed for Grounds and Colors.

The ground for vermillion: Two parts Venetian red, and one part red lead, for priming. Second and third coats: Venetian and red lead in equal parts; (this also makes a good finish for lumber wagons, it makes a rich cherry red when varnished). Ground for browns: Two parts Venetian red to one part lamp black. Ground for straw color: best quality of white lead, add chrome yellow in small quantities—if dark, add a few drops of Venetian. Ground for cream color: White lead, and yellow ochre. Ground for green: White lead and lamp black. Ground for wine color: Indian red, two parts; lamp black, one part. Ground for blue: White lead and Prussian blue. For priming coats, the above grounds should be ground fine in raw oil; for dryer use one ounce of litherage or sugar of lead to one

pint of oil. These grounds, as well as colors, should be run through the mill in a thick mass, it requires less time, and your colors will be finer. Dilute with raw oil for all priming. This should be well rubbed in with a stiff brush, which would be far better; after applying with the brush, rub in thoroughly with the hand. If these precautions are taken, you will not have the mortification of having your paint chipping off from the wood, which would be the result should your priming be too thick.

In mixing second coats for grounds, grind in raw oil, same as the priming, using the same precaution, and have it run through as thick as will admit; add to this Japan dryer, in proportion to the amount of oil used in grinding, which should be one part dryer to two parts oil; dilute with turpentine to the desired consistency for use, which should not be too thin, apply this coat with a bristle brush, and rub out well. This should not be put on until the priming coat has become perfectly dry and hard, sand papered, puttied, and dusted off. Putty for carriage work should be made as follows:

Quick Drying Putty.

Dry white lead and Spanish white in equal parts, mixed with hard drying or rubbing varnish; this works better when thin; to keep this from drying out it should be kept in water.

Third Coat of Ground.

Grind in one part oil, two parts Japan; dilute with turpentine, as before; sand paper your work slightly, dust, and apply this with a flat camel's hair-brush. This coat will require more turpentine than the second coat, in order to have it flow more readily from the brush. No. 2½ sand paper is the best for finishing up grounds. We now have the cherry red for lumber wagons and straw color, brought to a state ready for striping, as the ground and color are in one. To any person not accustomed to striping, it would be better to give the two last mentioned an extra coat by adding rubbing varnish equal in bulk to the third coat of ground, bringing it to the desired consistency to flow readily over your work, washing the work with cold water before striping, to prevent its crawling. (*See Rules for Striping.*)

To give a clear and comprehensive illustration of rules and principles to be observed in painting a new carriage, in course of completion from the woodshop to the trimmer, we will have to take some one vehicle, for instance, a buggy, which is designed to be painted black. That being the predominating color. In order to ensure success in attaining the most important requisites, viz., durability, brilliancy and richness of tone, we cannot deviate from the old and well established rules which experience has demonstrated.

All woodwork should be primed (inside and out) before taken to the blacksmith shop, filling all screw and brad heads, checks, cracks, &c. It is the carriage-body maker's duty to have a level surface, free from hollows, plane marks, &c. The screw heads should be plugged, being careful not to drive the plug so as to come in contact with the screw, giving it a chance to expand when exposed to extreme heat; use glue on the edges of the plug only. By this means the surplus glue is left on the surface, and if the plug does not hit the screw it will seldom show. Set the heads of the brads well in, then pass a sponge of hot water over them filling the holes. This brings the wood back more to its natural position, and closes by degrees over the head of the brads. When dry, sandpaper off and prime. The carriage body will be retained in the paint shop while the running parts are being ironed. As it will require a greater amount of coats, therefore, it will be necessary to get it in rough coating, while the carriage part is in the hands of the smith.

When the priming has become sufficiently dry and hard, you will proceed to putty all brad and screw heads and uneven places, leaving the putty flush as it will be cut smooth and level in the process of scouring down the rough coat; the carriage parts will be puttied before sandpapering, which will cut it down even; glaze all spots of

rough grain and cut it down close with sand paper when dry. For mixing and applying second coats see "Grounds," page 7.

Three coats of lead will be all that is required on body or carriage parts; using sand paper slightly on second and third coats in order to remove all specks remaining on the surface, using caution not to cut through to the wood, dust when you are ready for the rough coat.

To mix rough coating, first application, to four pounds of yellow ochre or English filling, add one pound of best white lead, grind stiff in two parts, hard drying or rubbing varnish to one part Japan and one part raw oil; dilute with turpentine to the consistency of thick paste, and rubbed out well with a bristle brush, when hard apply the second coat mixed the same as the first, with the exception of dispensing with the raw oil and substituting the same amount of wearing varnish. Third coat the same.

Three coats of rough stuff is all that will be required, with but few exceptions, that depends on the skill of the body maker to a great extent. The time required for each coat to dry depends in a great measure on the stock you are using, atmosphere, &c., but as a general rule it will not do to apply the second coat until the first coat has stood thirty-six or forty hours. The third in twenty-four. The whole to stand at least forty-

eight hours before it will do to scour down, if not hurried it would be safer to let it stand five or six days. To persons unacquainted with this scouring process, it would be advisable, after the last coat has become hard enough, to mix lamp-black with two parts Japan, one part rubbing varnish and thin with turpentine, and apply a light coat over the surface of the rough coating, rubbing it well into the pores. This will serve as a guide in rubbing down, that is, when you have this rubbed out. It will not be safe to cut any deeper as you would be liable to work through to the grain of the wood and the water coming in contact with it will cause it to rise. If at any time this should occur, it should be sandpapered down when dry, and touched up with priming and made smooth with emery paper when dry.

When your rough coat has become sufficiently hard, you will proceed to scour it down, (as termed by the generality of painters,) for this, select the softest lumps of pumice stone; should they be too large, you can saw them in blocks to suit; or worked in any desired shape with a coarse wood rasp and water, before rubbing you will wet your surface with a sponge and wash ti off often to see that you are not working below your guide. Water should be used freely as the stone cuts faster when it is kept wet, work close in corners, mouldings, &c. When your job has been rub-

bed down level and smooth, wash clean with cold water, using your water tool in corners, under projections where you cannot get at readily with your sponge, wipe dry with chamois skin, let it stand for a few minutes when you can give it a polishing with emery paper, dust off thoroughly. The job is then ready for the first coat of color or its base.

Lamp-black is the best adapted for a base or ground, for drop or ivory black, its body and covering qualities, together with its extreme durability and adhesiveness should recommend it. This is to be ground and mixed in two parts Japan to one of rubbing or hard drying varnish, diluted with turpentine, to be laid on quick and even with the camel's hair brush; this will dry hard in a few hours, although the next coat must not be laid on under twelve or fifteen hours, then to be rubbed over slightly with curled hair or moss, to remove any particles remaining on the surface, dust off thoroughly before applying the next coat, which will be drop black. The best in use is the pulverized diamond jet, by using which you will save time and labor in crushing ready for the mill. This will have to be brought to a great degree of fineness—running it through the mill the second and often the third time, mix and apply the same as the lamp-black, using the same precautions in rubbing and dusting. This will do

to coat in twelve or fifteen hours, unless speed is desired, when it can be coated in from six to eight hours, but we would not vouch for any varnish cracks that would be apt to appear on the surface.

The coloring to be commenced on the carriage part at the same time as the body, using the lamp-black as the base and drop black for second coating, having the whole in a state to "color varnish" as termed by carriage painters, that is to add a small quantity of your drop black you will have left to your rubbing varnish; great care should be taken, however, in covering every part with your "dead color" or it will be liable to show through the color varnish, perhaps it would be better for a new beginner to give his job the second coat of drop black "dead," before applying the varnish color coat, to be put on the carriage part with a bristle brush, using fitch hair on the body. This will do to rub in twenty or twenty-four hours, which sould be done with superfine pumice stone and water, using felt or heavy woolen cloth for a rubber; mix your pumice stone in some convenient vessel, a tea-saucer would answer all purposes, you do not want to use this in very great quantities on this coat, only sufficient to take off the specks that remain on the surface; wash off with cold water and wipe dry with chamois skin.

Great care should be taken to wash out all particles of pumice stone which are apt to remain

concealed in corners, &c., using the water brush; if this precaution is not taken it will be brought out with your varnish brush when applying the next coat, which will give your work the appearance of being sanded.

The running part of the buggy is now ready for the striping, (see treatise on striping,) when you will first proceed to flow on a coat of rubbing varnish. This will receive a thorough rubbing with pulverized pumice stone and water, washing clean, using sponge and water tool, wiping dry with chamois skin. Use caution in rubbing the square corners at the the base of the spokes. Should you have the misfortune to rub through at any time, you will touch up with dead color coating. This is to be used also in cutting square ends to your striping on the spokes, and straightening up any uneven places; the whole carriage part will receive its finishing coat, using wearing carriage varnish. Flow on as heavy as possible, using a fitch hair brush as a smoother, which is to be used dry. To level your work and take out the varnish pits, wants to be done with alacrity before your varnish sets, for instance, on a wheel you will apply your varnish between the spokes first with a small tool, next on the front edge, working only half way up in order to cover the flat V shaped part only, standing in a position to have your left hand on the rim of the wheel, with the

hub directly in front, commence by flowing your varnish on the flat sides of the spokes opposite, when all have been done, repeat the operation on the flats next to you, when done reach across and wipe up on the right hand quarter, with a dry tool, all surplus varnish that has flowed over, wiping your brush out often over the edge of your varnish cup. Finish spokes by flowing on the back edges and leveling with dry tool, finishing hub and rim last. This rule should be adopted in painting a wheel also. You will now give the body a second coat of color varnish, using not quite as much black as in the first, when dry hard give it a more thorough rubbing than the first, use the same precaution in washing out the particles of pumice stone in dusting off your varnished surfaces. The brush should be clean or you will not make much headway in the operation. I have found it a good plan to oil the tip of the duster before using it on a job of this kind. In order not to get too much on you will pour a a few drops of oil in the palm of your hand, rubbing it out evenly over the surface, and working the points of the bristles thoroughly therein, which will cause all fine particles of lint and dust to adhere, beating the brush out over your hand.

Your job is now ready to receive the ornaments and "stripe" when required. When dry give it a coat of clear rubbing varnish, doing the upper

parts first, wiping out under projections, mouldings, &c., with a small dry fitch hair tool. It will be better to flow on to large surfaces with a bristle brush and level with broad fitch hair tool, using the point of the brush square on your work, wiping out the surplus varnish over the edge of your cup. First lay your work off lengthways of your job, then cross ways, repeating the process very light the second time, wiping out under projections and mouldings lightly, as before mentioned. The object is to get your varnish on even if not you are sure to have it sag. When this coat is dry it will be required to cut it down more than the previous coats, that is until you have all specks removed, using great caution to not cut through, as patching up now would be apt to show through the finishing coat, wash clean and dust as before, when you are ready for the finishing coat of wearing body varnish, apply as before using the same precautions. The time usually required for this coat to dry hard is from three to five days.

Varnish Rules.

Use the best coach varnish in the market, buying an inferior article to save dollars and cents will be found dearest in the end; never condemn an article until you have learned its peculiarities by noting its workings at different times. All

that is required on a body is to cover well, the thinner the coat the better. Only one grade should be used in all coats but the last. Never attempt to use varnish that will not flow readily in a temperature of seventy-five or eighty degrees. This can be remedied by the use of turpentine, but the life and lustre of your varnish is gone. It would be better to return it to the manufacturer. Buy your varnish directly from the manufacturers or their agents. Every manufacturer has his own brands or terms for describing his goods; hence a purchaser may buy of one varnish manufacturer what he calls No. 1 coach, and of another what he calls by the same name, and get a very different article. The great aim of the celebrated varnish makers is, to have their varnishes uniform in quality, so that purchasers once obtaining their goods can, at all times, get the same brands per catalogue.

Age adds greatly to the value of oil varnishes. All coach and outside varnishes are unfit for use until they have stood from six to twelve months.

Varnish Items—To Harden Varnish.

A newly varnished carriage should not be exposed to the dust and mud before washing in clear and cold soft water, it hardens the surface and prevents its spotting.

When hard drying or rubbing varnish sets too quick, add a small quantity of wearing body.

Repair jobs should be thoroughly rubbed with superfine pumice stone and water, which will give them the appearance of a newly painted job, in touching up you can get the desired shade required by wetting the color you wish to represent. Never choose a wet muggy day to do your varnishing.

Arrangement of Varnish Room.

This, as well as the paint room, requires light, ventilation, and means of excluding the dust. The windows should be so arranged as to let them down from the top; with curtains or blinds to exclude the rays of the sun. The floor to be tight to prevent the dust from raising from the wood or smith shops. Walls and ceilings should be hard finished or plastered and arranged so as to be free from any circulation of air. The floor should be sprinkled and wet down, walls and ceilings dusted before any attempt will be made to varnish.

English Mode of Painting a Coach Body.

The English rule for painting a coach or carriage body is: Seven coats of lead, seven coats of rough stuff, three coats of color, one coat of glazing, four coats of hard drying varnish, one coat of

wearing body; twenty-three coats from the beginning.

Method of finishing a carriage with the permanent wood filling: With this, the body is primed inside and out to keep the wood from shrinking, one of elastic rough stuff, putty coat, following with three coats of ordinary rough stuff, two coats of color, two or three coats of black body varnish; by this method you dispense with the rubbing coats. This method is coming fast into general use. It has a very rich effect, and is destined to take the place of the old method in some of the principal shops. The black body varnish is manufactured by Valentine & Co., Cambridgeport, Mass. The above should be protected by Valentine's "Wearing Body."

These are put up in 1, 2 and 5 gallon cans, and can be procured of any of the principal dealers in carriage painters' supplies.

Ordinary jobs, such as express, lumber and market wagons, do not require the skill that should be displayed on first-class carriages, therefore, the amount of stock and tools are not required. The same with ordinary carriage work, repair jobs, &c. In many cases you can turn out a commendable job with very ordinary tools; since the introduction of prepared color manufactories, you can purchase it ready prepared, that is, ground in oil. The only objection is that it requires a longer

time to dry. When using the colors you will take off the top of the can, which can be done with a pocket knife, carefully remove all oil remaining on the top, mix in Japan equal to one half of the quantity you have in bulk of paint, dilute with turpentine as before mentioned. By using these colors you dispense with paint-mill, slab and muller, also palette knife by substituting a thin plated table-knife, using a heavy plate window glass for palette.

For an ordinary quick black, use Eddy's Refined Lamp Black, this requires no grinding, all that is required is to mix it in a thick paste, two parts Japan to one part rubbing varnish, dilute as before. For second coat add double the amount of rubbing varnish; when dry rub your work over with moss or curled hair, when you will stripe, and finish with medium varnish.

This class of work can be done with an ordinary bristle brush. Use tube colors for striping, and transfer ornaments. (See striping and ornamenting.) It pays the mechanic much better on the above class of work than that which requires a higher grade of finish.

Where to Procure Colors.

Any of the following colors can be obtained in patent cans or tubes, ground in Japan or drying oil and turpentine, as may be required, for coach and car work, at a much lower price than the

paints ordinarily ground in paint-shops can be procured for. These colors are of absolute purity, and of a fineness never before attained. In brilliancy of color they cannot be equalled, as no colors are sold in the market of the quality of those produced by this enterprising firm. Their superfine drop blacks, ground for coach and carriage work, are wholly from ivory, and ground in the best coach Japan. These colors all dry quickly and flat perfectly. No painter can afford to grind his own colors in the shop in view of the superiority of the paints put up by this firm. I have used them and can heartily recommend them to the trade. I have had no occasion for a paint mill or slab since the adoption of these colors. Any of the following colors can be procured from the firm of Masury & Whiton, Globe White Lead and Color Works, 111 Fulton St., New York, in cans and tubes:

White Lead.

Blacks.—English Ivory Drop; Lamp, Eddy's Refined.

Blues.—Chinese, Prussian, Ultramarine.

Reds.—Carmine, French; Carmine, Lake German; Scarlet Lake; Scarlet Lake, No. 3; Munich Lake; Solferino.

Vermillions.—English Pale, English Deep, Trieste, Chinese, Persian, American.

Scarlets.—Light, Dark, Rose Pink, Chautaumne Lake.

Red Venetian.—English, American.

Red Indian.—Genuine; Fine; Red Lead, English; Red Lead, American; Litherage, English.

Yellow.—Chrome, A, pure; Chrome, A, chemical; Chinese, Oxford, Dutch Pink, Rochelle Ochre, Havre Ochre, Brandon Ochre.

Greens.—Paris, Emerald, Hibernia, Chrome, Magnesia, Marseilles, Permanent, Verdigris.

Browns.—Turkey Umber, burnt; Turkey Umber, raw; Vandyke Brown, Italian; Sienna Italian, burnt; Sienna Italian, raw; Spanish Brown.

TUBE COLOR ORDINARY.—MISCELLANEOUS.

Tube colors, enumerated on this page, can be purchased from any dealer. See appendix.

Antwerp Blue, Asphaltum.

Bitumen, Blue Black, Bone Brown, Brilliant Yellow, Brown Ochre, Burnt Roman Ochre, Burnt Terravede.

Caledonia Brown, Cappah Brown, Cessel Earth. Cork Black, Chrome Orange, Cologne Earth, China White, Kremlitz White.

Flake White, Silver White.

Gamboge, Indigo, Italian Pink, Kings' Yellow, Mummy.

Naples Yellow, New Blue, Olive Lake, Olive Tint, Orpiment.

Permanent Blue, Permanent White, Prussian Brown, Purple Lake.

Roman Ochre, Sugar of Lead.

Transparent Gold Ochre, Terra Rosa, Terra Verde, Verona Brown, Veronese Green.

Yellow Lake, Zinc White.

EXTRA COLORS.

Burnt Lake, Gaude Lake, Sepia, Citron Yellow, Zanober Green, Antimony Yellow, Mars Yellow, Malachite Green, etc.

Compound Colors.

The colors arising from mixture are innumerable. My object is to give the simplest and most comprehensive method of preparing them. These, when the unity of two colors, are termed "the virgin tints." The greatest purity and riches is attained in using the least number of colors. In mixing tints, I will give the body color first, or the one which predominates; and next, the one that has the strongest relation to it, and so on. It is almost an impossibility to give the proportions a minute exactness, as this will be owing to the strength of the colors used, and taste, judgment, etc., of the operator.

Table of Tints.

Brick Color.—Yellow ochre, two parts; red lead one part; white.

Bronze Green.—Permanent green, lamp black, chrome yellow, raw umber.

Chestnut.—Red four parts, black three parts, chrome yellow one part.

Chocolate.—Lamp black two parts, Spanish brown two parts, yellow one part.

Claret.—Red four parts, umber two parts, lamp black one part.

Cream.—White four parts, chrome yellow one part, raw umber.

Changeable.—Red two parts, chrome green one part, tint with white.

Carnation.—Madder lake, three parts; one part white.

Lead Color.—Six parts white, one part lamp-black.

Dove Color.—White, four parts; vermillion, two parts; blue, one part; chrome yellow, one part.

Flesh Color.—Two parts lake, one part white lead, and a little vermillion.

Fawn Color.—Two parts white lead, one part stone ochre, and vermillion to suit.

Gold Color.—Two parts stone ochre, add red until you get the desired shade.

Grass Green.—Chrome yellow; add prussian blue to get the desired shade.

Jacquel.—Two parts chrome yellow, two parts rose pink, tone with white; this is only used in distemper. (See Striping.)

Light Grey.—Six parts white lead, and prussian blue to suit.

Light Timber Color.—Two parts yellow ochre, one part white lead; tone with umber.

Light Willow Green.—White lead, brought to the desired shade with verdigris.

Lime Stone Color.—Four parts white lead, three parts yellow ochre, one part black, tone with red.

Lemon Color.—White lead, tone with light chrome yellow to get the desired shade.

Lilac.—White lead four parts, Venetian red one part, tone with Prussian blue.

Pearl.—Ten parts white lead, one part lamp black, tinge with Prussian blue.

Peach Blossom.—White lead eight parts, red one part, blue and yellow combined one part.

Pea Green.—White lead, add chrome green to get the tone desired.

Purple.—Violet tinctured with blue and white in equal quantities.

Oakwood Color.—White lead eight parts, one part yellow ochre, tone with raw umber.

Orange.—Chrome yellow, tinge with Venetian Red.

Olive.—Chrome yellow eight parts, Prussian blue one part, black and white combined one part.

Portland Stone Color.—Raw umber two parts, yellow ochre two parts, white lead one part.

Rose Color.—White lead two parts, add madder lake for desired shade.

Sand-stone Color.—White lead six parts, yellow ochre three parts, black one part, tinge with red.

Snuff Color.—Yellow ochre four parts, Vandyke brown to suit.

Silver Gray.—White lead nine parts, indigo and lamp black combined, one part.

Straw Color.—White lead and chrome yellow, add the latter to get the desired tone.

Salmon Color.—White lead, chrome yellow, raw umber, venetian red. The white lead for base, then add the other ingredients in small quantities until the required shade is produced.

Violet Color.—Vermillion four parts, Prussian blue and white lead combined one part.

Drab.—White lead six parts, raw umber one part; or white eight parts, yellow ochre one part, Venetian red and lamp black combined one part.

Plum Color.—White lead four parts, Prussian blue one part, Venetian red one part.

Dark Poke Berry Color.—Indian red, three parts, Prussian blue one part; or, rose pink three parts, lamp black one part.

Invisible Green.—Two parts lamp black, one part chrome green.

Brown.—Venetian red, brought to any shade with lamp black.

These tints can be brought to any degree of lightness with white and yellow.

To Paint a Spring or Express Wagon.

Boston Style. Body dark green, running parts vermillion.

Rules for Painting Body. Prime with dark lead color, mixed in raw oil, using a small quantity of japan dryer; when dry, sand-paper, dust and putty; color your putty with dry venetian; second and third coats of lead; two parts Japan to one of oil, dilute with turpentine.

Two Coats Rough Coating—Two Coats Green To three parts green add one part lamp-black, grind in japan, dilute with turpentine, using a small quantity of varnish as a binder.

One Coat Color Varnish. Rub &c., when dry, grind lamp-black, in two parts japan and one part rubbing varnish. Thin tothe desired consistency, and with this cut in the champers making the whole frame work black; your black does not require to be very thick; regulate this with turpentine by having it in a cup handy for that purpose; a palette or small pane of glass will be required, first dipping your striping pencil in your color and working it well into the hair. This will not require any great amount of skill, as it will come very handy to you after but a few attempts.

Your pencil for this work wants to be of camels hair, and quite short; your pencil must not be too full for this work; commence by dropping the point of your pencil on the work, and let it down gradually as you commence drawing, keeping the same weight of your hand on the pencil, until the color is exhausted, ending with the point also. By curving in the wrist, with but a very little practice you can accomplish this art. All coarse line striping should be mixed in the same manner. (See striping.) The star shaped centre, formed by the right-angles of the frame work, dividing the four panels, can be finished with a good effect in the following manner:—Take a piece of cap paper, say four inches square, and double it each way in the centre, when it will make it four thicknesses and forming a square of two inches, take a sharp knife and clip off the corner, which will be the centre when opened, then each way from this scollop out in a semi-egg shape, drawing it gradually and gracefully to a point; when opened the four points will be found to correspond with the right-angles in your frame work, which can be sized with a light coat of rubbing varnish. When this becomes a little tacky lay your pattern on the angles, and rub it over with bronze and so on, until you have them all complete. Stripe the panels with a mathematical pen, in distemper, give it a coat of rubbing var-

nish, rub lightly, finish with coat of wearing body varnish; paint the inside; when the box is done, prime the running part with venetian red mixed in raw oil, add a small quantity of japan dryer, putty, &c. Second and third coats equal parts of venetian and red lead, one coat vermillion. Varnish color, stripe &c., finish with flowing coat of wearing carriage.

Style second for Spring Wagons. Bodies brown or dark wine color; running parts straw color.

Style Third. Bodies vermillion, trimmed with black, running parts light drab. The average prices for painting this class of work, range from eighteen to twenty-two dollars, at this present time, 1870.

Repair Work.

When you have received an old job which is to be painted, it should be first thoroughly washed off, using sponge and water-tool; remove all particles of grease that have accumulated on various parts. If the job is to be black, the rims and all spots that are bare, should be primed with lead color; deep varnish cracks to be glazed with quick-drying putty; when dry, rub down with lump pumice stone and water, and finish up as before mentioned.

Burning off Old Paint.

To take off old Paint and Varnish. This is done by heating a block of iron and holding it near the work until the oil commences to fry, when it can be scraped off with a putty knife.

Rules for Striping.

The operator should use his own taste and judgment in displaying this art, and be governed in a measure by the predominating styles in different localities, and those adopted by the celebrated makers. Bronze is the rage at present, and this is used very moderate, viz: A stripe on the base of the seat, and moldings is all that is required on the body. On carriage parts, four stripes on each hub, one each on the clips, and the tips of spring bars. They should be from three-eighths to one-half inch in breadth, with a fine vermillion or carmine stripe on the fronts of the spokes. Spring wagons, lumber work, &c., will admit of a greater display. Your colors for broad line striping works best when ground in Japan, or gold size, by adding a small quantity of rubbing varnish; in using lamp black it will require one part varnish to two parts Japan. Owing to its fatty nature, dilute with turpentine to the proper consistency. Use glass or palette as before mentioned.

Tube colors are in general use for fine lining;

they are cheapest and most convenient, and of a great degree of fineness. To facilitate their drying, prepare Japan and turpentine equal parts in a cup you will have for that purpose. Unscrew the cap of the tube and squeeze out the quantity desired on your palette or glass; then dip your pencil in the prepared Japan and turpentine, and work it in the color in order to fill it. Then commence with the point of your pencil, letting the whole down on your work gradually, drawing at the same time, ending up on the point. When you have your stripe drawn the required distance, or the color becoming exhausted, end with the tip by curving your wrist under. In fine lining panels, etc., use a mathematical pen; with this method it can be done very quick and neat, making a perfect hair line. This will require to be done with your color mixed in distemper; strong beer is the best, or add a small quantity of sugar with vinegar, using dry colors. Those with lightest bodies work best, such as French zinc, vermillion, ultramarine, &c., and should be ground very fine in the distemper. Fill the pen with a short camel's hair pencil, using a straight edge as a guide, or with the dividers. Should you make any mis-strokes, the color can be wiped out with a damp chamois skin. This should receive a coat of rubbing varnish, using caution in rubbing to not cut through into the stripe, as the water will

work it up. It will require a second rubbing coat before cutting down thoroughly. These pens can be purchased from any stationer or mathematical instrument manufacturer, in handles same as common writing pens, or adjusted to dividers.

Bronzing.

This should be done on the color varnish; the surface to be thoroughly rubbed down with pulverized pumice stone and water, in order to kill the gloss. Give the parts which are to be bronzed a washing in a thin solution of ordinary starch and water, letting it dry and remain until you have gone through with the operation of bronzing.

To Prepare Sizing for Bronze.

Grind a small quantity of chrome yellow in wearing varnish; apply with a camel's hair pencil same as in ordinary striping. When the size becomes tacky, proceed to put on your bronze powder in the following manner: Take a small ball of raw cotton and enclose it in a piece of cotton or silk velvet by bringing the corners up together and wind with twine; this will form a handle; it requires to be about the size of a walnut. Dip this in the bronze powder and rub it lightly over the work. When dry, wash with a sponge and cold water, to remove all the starch and superfluous bronze. Should any bronze adhere to the

surface, where it is not desired, it can be rubbed out with superfine pumice or rotton stone and water, at the same time rubbing it lightly over the stripe to remove all loose particles that the varnish brush would be apt to work out; wash off, etc.

Gilding.

This does not require a great amount of skill; still, there is a "know how" to handle gold leaf. There are various ways, but the simplest method is to take your book and lay it down on some level surface, and by the use of a straight edge and sharp paper knife cut the back entirely off. Then take the first paper off that is used between the leaves of gold. Lay it on a level board or table, and rub it over lightly with a hard lump of beef tallow; take the paper and rub the superfluous tallow off by rubbing it on the ball of the hand. Place it back on the leaf with the tallowed side down, rubbing the points of your fingers evenly over the paper, being careful and touch every part. Raise the paper by inserting the point of a knife under it and you will find the leaf nicely adhered to the tallow. This can be cut in any desired shape required, when it can be laid on your sizing, rubbing it on with the points of your fingers. Raise the paper off with the point of a knife, as before mentioned, and the leaf will re-

main; rub it over with a ball of raw cotton, when your gilding is complete. Prepare the sizing same as for bronzing. Gold leaf can be shaded or glazed with any of the following transparent colors: For yellow, sienna earth, Indian yellow, Dutch pink and yellow lake. Reds, madder carmine, madder lakes, lac lake, dragon's blood and rose pink. Blue, indigo. Orange, orange lead, golden sulpher of antimony. burnt sienna, madder orange. Greens, prussian green, verdigris. Purples, Burnt carmine and madder lake.—Russet, prussiate of copper. Browns, burnt umber, mummy and asphaltum. Blacks, ivory black, bone black, Frankfort black and Spanish. In using the above transparents, make use of sugar of lead as a dryer.

Striping and Ornamenting Pencils.

These are made from camel or sable hair. Those for striping should be from one inch and a half to two inches in length, and for ornamenting purposes, from one-eighth to one inch, with tapering points.

To Clean Striping Pencils.

Wash out with turpentine, draw them repeatedly through a lump of beef tallow and place them on a window glass, rubbing them out with the points of your fingers in a straight position. When wanted wash out with turpentine.

Ornamenting.

It would be impossible to impart any correct ideas that would be comprehensible to the novice, pertaining to this difficult art. To become proficient it would require years of study and practice, and would in no way benefit the class this work is designed to help. We have an auxilliary that can be called into requisition; i. e., the beautiful and saving art of decalcomine or transferring. This has superseded and taken the place of the old method. Ornaments can be put on ninety per cent. cheaper, and far superior to those produced by hand. The annexed extract from Atkinson & Co's circular, which is printed without permission, will convey a great deal of information on this subject.

Fine Transfer Ornaments.

For carriages, buggies, sleighs, furniture, etc, direct from Paris. Sold by W. Atkinson & Co., 1270 Broadway, New York. Always on hand the largest and best collection of designs in America. The numbers from 800 to 1212 are designed especially for carriages, but are used for all purposes. The leading styles are secured by copy-right. In ordering it is only necessary to give the number, and how many pieces and pairs desired; but it is well to state desired use. Orders less than five dollars must be accompanied

with the money, or they will not be filled. We can give reference, but ask none, as our terms are net cash. Ornaments sent by mail to all parts of America, when orders are accompanied with the cash. This saves you the frieght and is from one to three days quickest. We send orders of five dollars or over, per express, to collect on delivery. Money may be sent, if desired, per post office order, in registered letter, or a draft to our order, which cannot be lost. For the sake of introducing our goods, all who order one dollar's worth or over, we will send full instructions how to use them, with your ornaments, if desired, without extra charge for information ; also tell you how to mix your own cement to use. This alone is worth considerable. All painters should know this quick, fine, saving art. Ornaments are finished within two minutes with the finest oil colors in them, and need no touching up with a pencil. Seventy-five to ninety per cent. is saved by using our ornaments. In ordering give your county and state, and name of Express company, if not ordered by mail. We make no charge for postage on ornaments when mailed. New styles added every month. All our ornaments show on ground of any color. Over 3000 designs, and constantly adding. Send for circular. Address

W. ATKINSON & CO.,
1270 Broadway, N. Y

APPENDIX.

KISSAM & GUNDAKER,

MANUFACTURERS OF

VARNISHES & JAPANS!

Office, 221 Pearl Street,

Corner Platt Street, NEW YORK.

Put up in 1, 2, 3 and 5 Gallon Cans.

Factory 105, 107, 109, 111 and 113 Chestnut Street,

NEWARK, N. J.

Having used the Japans and Varnishes manufactured by the above firm, I can heartily recommend them to the public. I have always found them to be uniform, and to possess all the following requirements—*Durability, Brilliancy and Fullness.* Their

I. E. WEARING BODY.

A very elastic varnish, made with great care, from the choicest materials, and in accordance with the best English formula. It contains a large quantity of bleached oil, is very durable, and designed for the finishing coat on coach bodies and railroad cars, takes from three to four days to dry perfectly hard, sets free from dust in 24 hours, and has been pronounced by good judges equal to any imported. Price, per gallon, $5.20.

WEARING CARRIAGE.

This is also an elastic varnish, and designed for the finishing coat on running gears; has the same relation to the latter as I. E. wearing body has to bodies, is made of selected gum and bleached oil, and is very durable. Sets free from dust in about twenty-four hours, and dries hard in about two days. Retail price, $4.75.

HARD DRYING BODY.

A very light shade, quick-drying varnish, also made of the choicest materials. Is designed for a finishing coat on all outside fine work, when only a very limited time is allowed for the varnish to dry; also to mix with the previous described varnishes to hasten their drying. If desired, dries hard in from twelve to fifteen hours. Retails for $4.90.

PALE RUBBING.

A very fine pale varnish, used as the first coat or base (after being rubbed down) on coach bodies and railroad cars to receive the finishing coat, and give the latter a smoother and brighter lustre. Consumers are generally more particular in regard to the quality of this than any other of the outside varnishes. In it they claim to excel any other manufacturer, as their numerous testimonials will prove. Price $4.25.

RUBBING.

Is the same in every respect as pale rubbing, except being of darker shade; consequently will not answer as well on light paint or wood. Price, $3.75.

NO. 1 COACH BODY.

This is also an elastic varnish, suitable for coach and carriage bodies, when exceedingly light or fine varnish is not required. It is made of hard gum, with sufficient oil to stand the changes of climate and weather, and is in very general use for these purposes. Sets free from dust in twenty-four hours, and dries hard in forty-eight hours. Price, $3.00.

COACH OR CARRIAGE.

This is the quickest drying of the outside varnishes, and is designed for wagons, running parts of carriages, graining and ordinary outside work, when a light colored varnish is not required. Dries hard within twenty-four hours. Price $2.75.

ENAMELED LEATHER TOP.

This is a black varnish, designed for rejuvenating buggy tops, containing enough oil to make it very elastic and durable. Dries hard in twelve to fifteen hours. Price $3.00.

C. M. JAPAN.

A light colored dryer for coach and car painters' use, made of gum copal, aud designed to mix with linseed oil and paints, to hasten their drying. This is considered a very superior dryer. Price $1.60.

PAINTERS' JAPAN DRYER.

A similar dryer to the C. M., of a deeper brown color, and used by painters for drying of paints; dries very quickly. Price $1.35.

We publish the above without permission from the manufacturers. Our object is to give the names of different grades, and the prices we have been paying at the present time, 1870. Although varnishes are subject to fluctuation from various causes, prices can be obtained at any time by sending for descriptive catalogue and price current.

ESTABLISHED 1827.

EDWARD SMITH & CO.,

(LATE SMITH & STRATTON,)

Manufacturer of Varnishes,

No. 161 William Street,

EDWARD SMITH,
JOHN A. ELMENDORF.

NEW YORK.

PRICE, BOND & CO.

MANUFACTURERS OF

Copal Varnishes,

No. 275 Rail Road Avenue,

NEWARK, N. J.

COACH AND CARRIAGE VARNISHES.

IMPORTED ENGLISH BODY, (finishing,)
WEARING BODY, (finishing,)
HARD DRYING BODY,
RUBBING BODY,
WEARING CARRIAGE,
MEDIUM CARRIAGE, (or No. 1 Coach)
DARK CARRIAGE (or No 2 Coach)
PALE DRYING JAPAN,
BROWN JAPAN,
BLACK ASPHALTUM.

EBEN FISHER,

(Successor to W. C. Hunneman,

MANUFACTURER OF AND DEALER IN

COPAL VARNISH & JAPANS

IN ALL THEIR VARIETIES.

65 Commercial Street, **BOSTON.**

Valentine & Co.

Varnish & Japan Manufacturers

CAMBRIDGEPORT, MASS.

Office, 88 Chambers Street, - - NEW YORK.

Post Office Box, 2818.

(We will give the brands sold by these celebrated manufacturers, that in ordering, the reader of the "GUIDE" can clearly designate the brands and grades, (published without permission,) viz:

PERMANENT WOOD FILLING, (dark,)
" " (light.)

A patent article for priming out-side work, and permanently filling and darkening natural wood.

This is being used in the first shops in the United States, and is fast filling the place of the old method.—*The Author.*)

JAPAN GOLD SIZE,
For Drying, Binding and Hardening Colors.

OIL GOLD SIZE,
For Gilding.

CROWN COACH JAPAN,
For Drying and Hardening Paints.

ENAMELED LEATHER VARNISH,
For renovating the Black Enameled Leather of Carriage Tops.

NO. 1 BLACK VARNISH,
For Iron Work.

QUICK BLACK LACQUER,
For touching up in repairing iron-work on gears, &c.

BLACK BODY VARNISH,
For producing a Jet Black Surface on Coaches.

QUICK LEVELING VARNISH,
For under-coats on Gears, or on Bodies requiring dispatch.

ELASTIC LEVELING VARNISH,
For under-coats on Bodies of Coaches.

HARD DRYING BODY VARNISH.
For under-coats on best work.

ONE-COAT COACH VARNISH,
For Finishing only.

ELASTIC GEAR VARNISH,
For Finishing the Wheels and under-parts of Carriages.

RAILWAY BODY VARNISH,
For Finishing only.

MEDIUM DRYING BODY VARNISH,
For Finishing Coats only.

WEARING BODY VARNISH,
For Finishing Coats only.

John M. Baker,

DEALER IN

Paints, Oil, Varnish, Brushes,

GOLD LEAF, BRONZE,

STRIPING PENCILS, MATHEMATICAL PENS, &c.

No. 87 East Genesee Street,

SYRACUSE, N. Y.

General Manufacturers and Dealers in Varnishes in New York.

Wm. A. Andoe, 181 Pearl St.
Carey & Baker, 427 east 25th Street.
Bell Bros., & Co. 159 Front St.
Blodget Wm. Tilden, 252 Pearl Street.
Brooks & Fitzgerald, west c., west 25th street.
Thomas B. Brooks, 73 Gold Street.
Christal & Struthers, 224 and 226 Pearl Street.
John Julius & Co., 207 Pearl Street.
J. D. Gilmore, 260 Pearl St.
M. W. Griswold & Co., 249 Pearl Street.
Wm. Harland & Son, 57 Cedar
Holopp & Co., 462 Canal St.
F. S. Learned, 142 Maiden Lane.
A. H. Louis & Co. 143 Maiden Lane.
Henry Louis, 378 Pearl St.
A. G. Mandel & Co., 242 Pearl Street.
F. Marx & Co., 179 William Street.
Masury & Whitton, 111 Fulton Street.
George L. Wood, 214 Pearl Street.
Woodbury & Co., 129 Maiden Lane.
Smith, Baldwin & Co., 110 John and 425 east 25th Streets.

ESTABLISHED 1806.

HARRISON BROS., & CO.

PROPRIETORS OF THE

"GRAY'S FERRY" AND "KENSINGTON"

White Lead, Color & Chemical

WORKS.

Connected by Private Telegraph Wires,

The Sole Property of the firm, with their Offices 105 South Front Street, Philadelphia, and No. 16 Burling Slip, South-East Corner Water St., New York.

LEWIS E. WERTHEIMBER,

104 William Street, - NEW YORK,

IMPORTER OF

PAINTS & COLORS

And all Goods used by Coach Painters.

Begs to call the attention ot the trade to his

SUPERIOR BRONZE POWDER,

specially prepared to suit for "striping" of Carriage parts, &c,, &c. Twenty different shades, used by the first houses of the Country, and the demand constantly increasing. Address for Sample, Card and Price List, Box 4048, P. O., New York City.

PARKER & GILLISPIE,

MANUFACTURERS OF

Varnishes and Japans

228 PEARL STREET,

Between Maiden Lane and John,

ISAAC PARKER,
CHARLES H. GILLISPIE.

NEW YORK.

General Dealers in Carriage Painter's supplies.

John Chrisler, 795 Broadway, Albany, N. Y.
Wm. Deyermand, 381 and 383 Broadway, Albany, N. Y.
Fonda & Bagley, 70 and 72 State St., Albany, N. Y.
John R. Humphrey, 89 Washington Ave., Albany, N. Y.
A. McClure & Co., 74 and 76 State St., Albany, N. Y.
J. J. Basset, Amsterdam, N. Y.
A. Putman, " "
Herman Wendall, " "
Jas. H. Loomis, Attica, N. Y.
Joshua Burt. Auburn, N. Y.
T. J. Kennedy, Auburn, N. Y,
H. A. Smith, Binghampton, "
Philip Becker & Co., 468 and 470 Main St., Buffalo, N. Y.
John J. Hoppneh, 9 Court Street, Buffalo, N. Y.
F. S. Pease, 65 and 67 Main Street, Buffalo, N. Y.
Post & Viergiver, 13 East Swan Street, Buffalo, N. Y.
E. P. Crocker, Cambridge, "
Samuel D. Tilletson, Canandagua, N. Y.
David B. Dunham, Catskill, N. Y.
Jonas Dillenbeck, Cobleskill, N. Y.
V. C. Stone, Ft. Edward, N. Y.
Whithouse & Co., "
Matthew Wilson, Geneva, N.Y
Murray, White & Co., Homer, N. Y.
R. H. Crampton, Oneida, N.Y.
W. L. Hauptman, Morrisania, N. Y.
Pickert & Drury, Oswego, N.Y
Geo. Ashley, Little Falls, N.Y.
H. D. Thatcher, Pottsdam, "
Palmer & Deyo, 367 Main St., Poughkeepsie, N. Y.
Thomson & Co. Poughkeepsie, N. Y.
Henry Barnard, 23 Front St., Rochester, N. Y.
M. &. E. Huntingden, 36 Main Street, Rochester, N. Y.
J. G. Luitwiller, 86 Main St., Rochester, N. Y.
Osgood & Farley, 4 Front St., Rochester, N. Y.
Thomas Whitehouse, No. 1 Allen St., Rochester, N. Y.
Geo. P. Russ, Rome, N. Y.
Gates & Co., Saratoga Springs.
S. G. Searing, Saugerties, N.Y.
E. L. Freeman & Co., Schenectady, N. Y.
Vedder & Thornton, Schnectady, N. Y.
Alfred Carr, Stapleton, N. Y.
William Grant, Sing Sing, N.Y
J. L. Ostrom, 396 River St., Troy, N. Y.
George R. Ward, Brockport, Sweeden, N. Y.
L. & J. Saulter, 56 E. Washington St., Syracuse.
M. C. Hewel & Son, Utica, N.Y
Wiseman & Timmerman, 30 Bleker Street, Utica, N. Y.
Wheeler & McLean, Waterloo, N. Y.
Chas. L. Achard, Scottsville, N. Y.
William McCollough, Niagara Falls.
T. S. Whitney, Niagara Falls.
A. M. Rowell, Suspension Bridge, N. Y.
R. H. Hoff, Port Byron, N. Y.

R. Shoemaker & Co.,

201 and 203 North Fourth Street,

PHILADELPHIA,

IMPORTERS, MANUFACTURERS AND DEALERS IN

PAINTS, OILS, VARNISHES,

AND COACH PAINTER'S SUPPLIES,

CARRIAGE TRANSFERS.

We offer to the trade, from our large stock, a full and complete assortment of goods needed by Coach Painters, consisting in part of

CARMINES & LAKES, BRONZE, GOLD LEAF, CHINESE, ENGLISH, FRENCH, TRIESTE, AND AMERICAN VERMILLIONS.

TUBE COLORS,

In great variety of Foreign and Domestic Manufacture.

CAMEL'S HAIR & SABLE PENCILS, STRIPERS

VARNISH AND PAINT BRUSHES,

English Drop Black, Rose Pink, Indian Red, Noble & Hoar's Coach Varnishes, Enamel Black, etc.

Valentine's Varnishes and Permanent Wood Filling,

In One, Two, and Five gallon cans.

WHITE LEAD

Of our own manufacture, of the following brands: "Pure," "Empire," "Tyrone," "Oxford," and "Pearl."

ROBERT SHOEMAKER & CO.,

North-East corner 4th and Race Sts., PHILADELPHIA.

CONTENTS.

	PAGE.
Arrangement of Shop,	5
Appendix,	38
Bronzing,	33
Burning off old Paint,	31
Brushes,	35
Compounding Colors,	24
Colors,	21–24
Decalcomine,	36
English mode of Painting Carriage Body,	19
Fitch Hair Brushes,	6
Gold Leaf to Lay,	34
Gold Size to prepare,	33
Grounds for Colors,	7
Gilding,	34
Ornamenting,	36
Repair Work,	30
Striping,—Method of	31
Pencils,	35
Varnish Room—arrangement of	19
Rules,	17–18
Transparent Colors,	35
Rough Coating,—to mix,	11
Tints, &c.	24

ERRATA.—On page 6,—eleventh line—for *length* read *breadth.*

THE

Carriage Maker's & Painter's

"GUIDE."

A FULL AND PLAIN TREATISE ON THE

THEORY AND PRACTICE OF

CARRIAGE PAINTING.

COMPRISING THE

LATEST IMPROVEMENTS IN GILDING, BRONZING, ORNAMENTING, STRIPING, VARNISHING, COMPOSITION OF COLORS, &C., ESPECIALLY ADAPTED TO CARRIAGE AND WAGON MAKERS AND GENERAL PAINTERS,

WITH AN APPENDIX,

GIVING NAMES AND LOCATIONS OF THE PRINCIPAL DEALERS IN PAINTS, VARNISHES, JAPANS, BRUSHES, ARTIST'S MATERIALS, &C., IN NEW YORK AND BOSTON.

By G. W. CLARK, Clarence Centre, N. Y.

BUFFALO, N. Y.:
HAAS & KELLEY, PRINTERS AND PUBLISHERS.

1870.

METZ & BLOCHER,

MANUFACTURERS OF THE

SPRING STEEL

TOOTH RAKES,

PLASTER SOWERS,

LIGHT & HEAVY CARRIAGES,

Lumber & Spring Wagons,

&C., &C.

All Orders Promptly Filled,

Packed and Shipped, to all parts of the United States and Canada.

B. METZ, D. BLOCHER.

CLARENCE CENTRE, N. Y.

LIBRARY OF CONGRESS
0 021 470 361 0